



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

BT

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,508	08/01/2001	Tatsuo Kakimoto	Q65478	3296
7590	05/02/2006			
SUGHRUE, MION, ZINN, MACPEAK & SEAS 2100 Pennsylvania Avenue, N.W. Washington, DC 20037				EXAMINER WOODWARD, CHERIE MICHELLE
			ART UNIT 1647	PAPER NUMBER

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/918,508	KAKIMOTO ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Cherie M. Woodward	1647

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 January 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-8,20,21 and 28 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8,20,21 and 28 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

**DETAILED ACTION*****Formal Matters***

1. Applicants' response and Amendments, filed 17 January 2006, are acknowledged. The Declarations under 37 CFR 1.132, filed 17 January 2006, are acknowledged and have been entered. Claims 9-19, 22, 27, and 29 are cancelled. Claims 1-8, 20, 21, and 28 are pending and under examination. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Response to Arguments******Claim Objections/Rejections Withdrawn***

2. The rejection of claims 1-8, 20, 21, and 28 under 35 USC 112, second paragraph, is withdrawn in light of Applicants' amendments.

***Claim Objections/Rejections Maintained***

3. The rejection of claim 8 under 35 USC 112, first paragraph, as lacking enablement commensurate in scope with the claims is maintained for the reasons of record in the Examiner's response of 14 July 2005. Applicant's arguments filed 17 January 2006 have been fully considered but they are not persuasive.

Applicants assert that the cytokinin receptor cited in part (i) of claim 8 is a "cytokinin receptor" which requires that has cytokinin receptor activity. Applicants also assert that part (i) of claim 8 does not encompass all proteins having one or more amino acid deletions, substitutions, or additions that eliminate the histidine kinase activity, but is encoded by a polynucleotide that hybridizes under stringent conditions, as amended, and that methods for obtaining such polynucleotide are disclosed in the specification.

Applicants' assertions are not drawn to the claim, as written. As written, the claim reads on a cytokinin receptor having the amino acid sequence of (a), (b), (c), (e), (f), or (g) with deletion, substitution, or addition of one or a plurality of amino acids. Thus, the claim reads on a cytokinin receptor where the structure and/or function is changed by the deletion, substitution, or addition of one or more amino acids. If it is Applicants' intention that the cytokinin receptor maintain cytokinin receptor activity, even though it is structurally altered by the aforementioned deletion, substitution, or addition, then Applicants should

Art Unit: 1647

state that the cytokinin receptor maintain cytokinin receptor activity in the claim, as written.

Additionally, it is noted that the phrase "having," in the claim, is read as the term "comprising" and the term "represented by" is read as "consisting of."

4. The rejection of claims 1-8, 20, 21, and 28 under 35 USC 102(a) as being anticipated by Inoue et al. (Nature 2001; 409:1060-1063) is maintained for the reasons of record in the Examiner's response of 14 July 2005. Applicant's arguments, filed 17 January 2006, have been fully considered but they are not persuasive.

The submission of Declarations under 37 CFR 1.132, from all of the co-authors, filed 17 January 2006 is acknowledged. The 37 CFR 1.132 Declarations have been considered. However, the Declaration filed under 37 CFR 1.31 (6 July 2004 [unsigned] and 4 May 2005), is insufficient to swear behind the date of the Inoue et al. reference.

The Examiner recognizes that Applicants have submitted a Declaration under 37 CFR 1.131 (6 July 2004 [unsigned] and 4 May 2005), in an attempt to swear behind the Inoue et al. reference. However, Applicants' 37 CFR 1.131 Declaration is not persuasive. The 37 CFR 1.131 Declaration, filed 4 May 2005, only contains the signatures of two of the three instant co-inventors. The Declaration states that the third inventor, Tsutomu Inoue, was unavailable to sign the declaration. No evidence of attempts to contact him were submitted with the Declaration. Mere averments of an attempt to contact him are hearsay and are without evidentiary weight. See requirements for 37 CFR 1.131 Declaration at MPEP 715(b).

***New Rejection - Necessitated by Amendment***

***Claim Rejections - 35 USC § 103***

5. Claims 1, 2, 6-8, 20, 21, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benfey et al., US Patent 7,026,530 (11 April 2006, priority to 29 November 2000), in view of Iwamura et al. (1983, J Medicinal Chem. 26(6): 838-844). The instant claims are drawn to methods of transforming cells with cytokinin receptors and screening for agonists by measuring changes in these cells. Benfey et al. teach WOL, which is nearly identical to one of the cytokinin receptors (also, see Rashotte et al. (2003), Plant Physiology, 132: 1998-2011) which teaches that the WOL gene is the same as CRE1, a cytokinin histidine kinase receptor). SEQ ID NO: 18 of Benfey et al., shares 96.9% amino acid sequence identity with the instant cytokinin receptors, including SEQ ID NOs: 4 and 6. Benfey et al., teach amino acids 1-979 of SEQ ID NO: 4 (corresponding to amino acids 32 to 1042 of

Art Unit: 1647

Benfey's SEQ ID NO: 18). The sequence comparison (originally provided with the Office Action of 1 December 2003) is attached. Thus, the proteins as taught by Benfey et al., are within the scope of the instant claims.

Benfey et al. teach plant cells transformed with recombinant constructs expressing the WOL gene (paragraph 0137). Furthermore, Benfey et al. teach identification of ligands to the WOL cytokinin receptor (paragraph 0151). Benfey et al. also teach that WOL is a two-component signal transducer. Moreover, Benfey et al., teach methods for identifying compounds that modulate the activity of a WOL polypeptide comprising contacting the polypeptide with a test compound and determining the effect of the test compound on the activity of the polypeptide (see claims 6 and 17 and paragraph 0121). Benfey et al. further teach that the WOL gene products may be expressed in yeast (page 12, paragraph 133), such as the budding yeast, *Saccharomyces*. However, Benfey et al. do not teach a method for analyzing agonist activity wherein intracellular signal transduction is measured.

Iwamura et al., teach a method of exposing cells expressing cytokinin receptors to cytokinin receptor agonists and antagonists. Iwamura et al., further teach measuring cytokinin receptor activity by measuring the fresh weight yield of a tobacco callus, i.e. measuring cell propagation (p. 839). Applicants state on p. 28 of the specification that the existence or the quantity of intracellular signal transduction means, for example, the quantity of the cell growth of the transformed cell as an indicator." Thus, it would have been *prima facie* obvious to a person of ordinary skill in the art to modify the method as taught by Benfey et al., by measuring changes in signal transduction as taught by Iwamura et al. Motivation to do so is provided by Iwamura et al., in that they teach measuring the effects of agonists on cytokinin receptors and that the WOL gene, as taught by Benfey et al., is a cytokinin receptor. One of ordinary skill in the art would have expected the modified method to work as well as the one exemplified.

The Examiner recognizes that Applicants have submitted a Declaration under 37 CFR 1.131 (6 July 2004 [unsigned] and 4 May 2005), in an attempt to swear behind the Benfey et al., priority provisional application (60/253,739) with a filing date of 29 November 2000 (see Office Actions of 6 January 2004 and 1 October 2004). However, Applicants' 37 CFR 1.131 Declaration is not persuasive.

The 37 CFR 1.131 Declaration, filed 4 May 2005, only contains the signatures of two of the three instant co-inventors, as discussed *supra*. The Declaration states that the third inventor, Tsutomu Inoue, was unavailable to sign the declaration. However, no evidence of attempts to contact him were submitted with the Declaration. Mere averments of an attempt to contact him are hearsay and are without evidentiary weight. See requirements for 37 CFR 1.131 Declaration at MPEP 715(b).

Art Unit: 1647

Applicants' representative argued, in Applicants' 6 July 2004 Response, that the inventors invented the present invention before the filing of the Benfey et al., provisional application, as evidenced by the submission of a paper to the journal Nature, prior to October 16, 2000. The three inventors and their co-authors were published in Nature, 2001 Feb 22;409(6823):1060-3. The mere submission of a paper to a journal is not *prima facie* evidence of the data or information that is contained in the paper as published. It is common practice for journals to require authors to submit additional data or to otherwise revise a manuscript prior to acceptance for publication. The 37 CFR 1.131 Declaration did not contain an appendix with the original submission to Nature, nor were copies of lab notebooks or other evidence submitted, showing that the data in the Nature publication was the same as the data submitted for publication prior to 16 October 2000.

MPEP 715 (see also 37 CFR 1.131) states that the showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of the application. Original exhibits of drawings or records, or photocopies thereof, must accompany and form part of the affidavit or declaration or their absence must be satisfactorily explained.

Applicants' have failed to make this required showing. As such the 37 CFR 1.131 Declaration is insufficient, as presently presented, to overcome the Benfey et al., art.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1647

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cherie M. Woodward whose telephone number is (571) 272-3329. The examiner can normally be reached on Monday - Thursday 9:00am-7:30pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback can be reached on (571) 272-0961. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CMW

  
BRENDA BRUMBACK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600